

Summary of Issues Related to SEC Petition 00175 at the Grand Junction Facilities

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Presented to:

The Advisory Board on Radiation and Worker Health

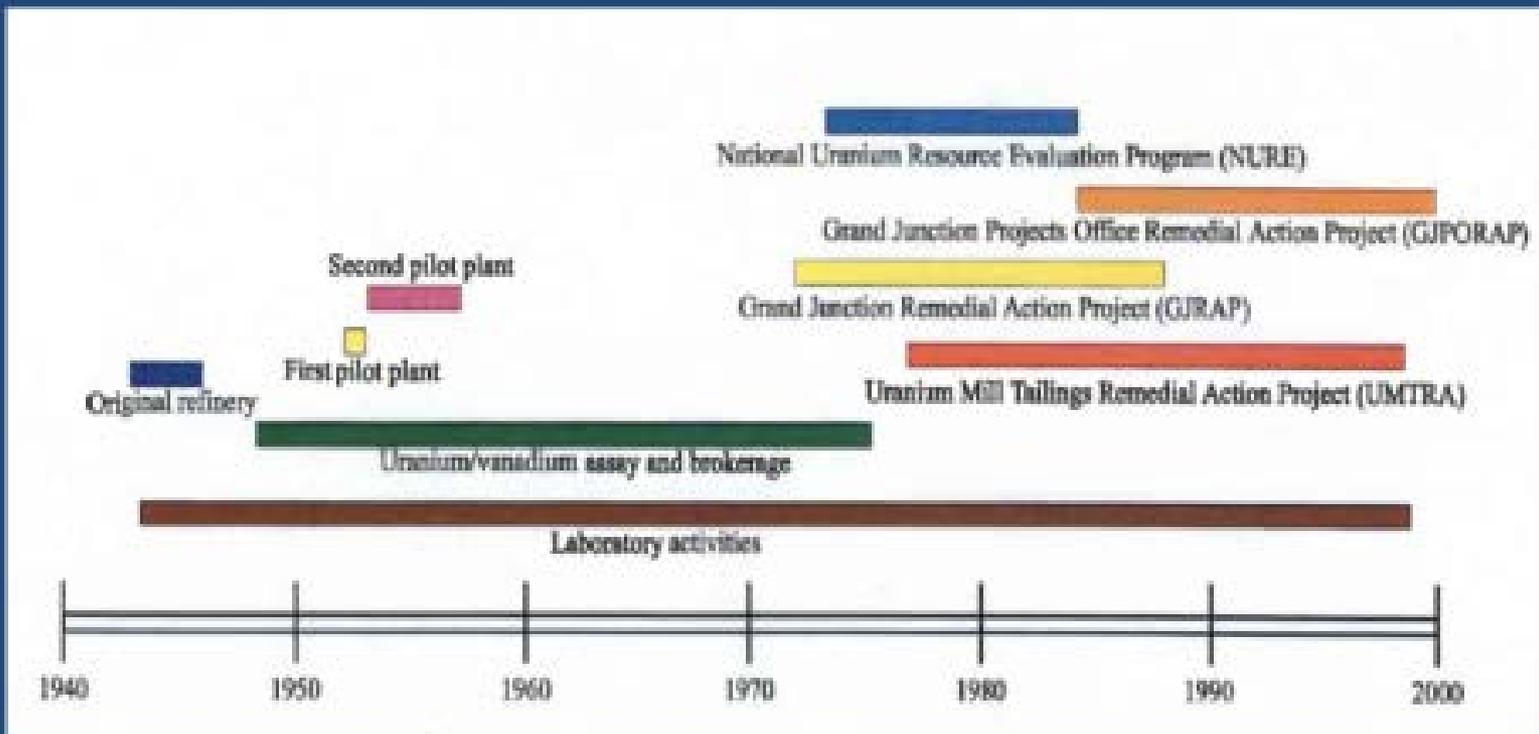
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Grand Junction Site Overview

- U.S. Department of Energy facility in Grand Junction, Colorado
- Between 1943 and 1946, the Manhattan Engineering District acquired the Grand Junction site in order to concentrate U_3O_8 .
- From 1974 to 1984, the Grand Junction Facilities (GJ, also referenced in documents as Grand Junction Operations Office) supported the National Uranium Resource Evaluation Program in the preparation of samples prior to analytical analysis.

Major Projects and Operations Timeline



SEC-00175 Chronology

- June 30, 2010. Special Exposure Cohort (SEC) Petition SEC-00175 received by NIOSH.
- January 12, 2011. NIOSH drafted Evaluation Report (ER) covering all onsite personnel who worked at the Grand Junction Operations Office from January 1, 1943, through July 31, 2010 (NIOSH 2011).
- February 24, 2011. The Board voted to recommend adding worker class from March 23, 1943, to January 31, 1975, to the SEC (ABRWH 2011).
- NIOSH informed the Board that additional work will continue for the time period January 1975 through July 2010.

SEC-00175 Chronology (cont.)

- March 12, 2015. NIOSH drafted an Addendum to the ER that addressed the time period from February 1, 1975, through July 31, 2010. The Addendum identified insufficient information to fully reconstruct internal doses prior to January 1, 1986 (NIOSH 2015).
- March 26, 2015. The Board voted to add a worker class from February 1, 1975, to December 31, 1985, to the SEC (ABRWH 2015).
- The Board tasked SC&A to conduct a focused review of the Addendum that assessed the appropriateness of the revised SEC time period and the adequacy of air monitoring and bioassay data.

Work Group Activities

- On May 17, 2016, SC&A submitted SCA-TR-2016-SEC006, *A Focused Review of the NIOSH SEC Evaluation Report for Grand Junction Operations Office, Addendum to Petition SEC-00175* (SC&A 2016).
- SC&A concluded the SEC time period beginning February 1, 1975, through December 31, 1985, is appropriate based on the lack of sufficient air monitoring data prior to 1986.

Work Group Activities (cont.)

- SC&A's review identified the following finding for the post-1990 time period:
 - Finding 1: There are insufficient workplace air monitoring data to support the assumption that unmonitored radiation workers would not have exceeded 200 DAC-hours or that non-radiation workers would not have exceeded 40 DAC-hours in a given year.
- The finding questioned whether GJ had implemented a workplace monitoring and worker bioassay program in 1991 that could be used to provide an upper bound intake for radiation and non-radiation workers.

Work Group Activities (cont.)

- Subsequent Work Group (WG) discussions did not resolve the issue.
- WG tasked NIOSH with:
 1. Determining activities in the 1991 era with the potential for generating significant air concentration data
 2. Interviewing the GJ personnel and internal dosimetrist for potential information about the air sampling and/or bioassay program

Work Group Activities (cont.)

- NIOSH conducted additional searches for air monitoring records for the period 1991 through 1993.
- NIOSH also interviewed a GJ employee who had direct knowledge of work activities and monitoring programs that were conducted during this time period.
- Based on the employee interview combined with the identification of RWPs, surveys, air monitoring records, etc. for specific projects requiring air sampling, it is evident that a monitoring program was in place at GJ during the time period in question.

Work Group Summary

- The WG considers the additional information in NIOSH references and records sufficient to conclude that GJ implemented a monitoring and bioassay program in 1991 sufficient to identify workers who were exposed to the site's 10% DAC trigger level for bioassay.
- The WG believes the information available to NIOSH is sufficient to document or estimate the maximum internal and external potential exposures to all employees under plausible circumstances during the specified period from January 1, 1986, through July 31, 2010.

Recommendation

- Based on the information in the original ER, ER Addendum, and follow-up investigations:
 - The GJ WG recommends that the Board find radiation doses can be estimated with sufficient accuracy for employees of GJ from January 1, 1986, through July 31, 2010.

References

ABRWH 2011. Transcript: Advisory Board on Radiation and Worker Health, held in Augusta, Georgia, on February 24, 2011.

ABRWH 2015. Transcript: Advisory Board on Radiation and Worker Health, held in Richland, Washington, on March 26, 2015.

NIOSH 2011. *SEC Petition Evaluation Report, Petition SEC-00175, Grand Junction Operations Office*, Revision 0, National Institute for Occupational Safety and Health, Cincinnati, Ohio. January 11, 2011.

NIOSH 2015. *SEC Petition Evaluation Report, Petition SEC-00175, Addendum, Grand Junction Operation Office*, Revision 0, National Institute for Occupational Safety and Health, Cincinnati, Ohio. March 12, 2015.

SC&A 2016. *A Focused Review of the NIOSH SEC Evaluation Report for Grand Junction Operations Office, Addendum to Petition SEC-00175*, SCA-TR-2016-SEC006, SC&A, Inc., Vienna, Virginia. May 17, 2016.